

# Exam Questions AWS-Certified-Database-Specialty

AWS Certified Database - Specialty

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#### NEW QUESTION 1

A database specialist manages a critical Amazon RDS for MySQL DB instance for a company. The data stored daily could vary from .01% to 10% of the current database size. The database specialist needs to ensure that the DB instance storage grows as needed.

What is the MOST operationally efficient and cost-effective solution?

- A. Configure RDS Storage Auto Scaling.
- B. Configure RDS instance Auto Scaling.
- C. Modify the DB instance allocated storage to meet the forecasted requirements.
- D. Monitor the Amazon CloudWatch FreeStorageSpace metric daily and add storage as required.

**Answer:** A

#### Explanation:

If your workload is unpredictable, you can enable storage autoscaling for an Amazon RDS DB instance. With storage autoscaling enabled, when Amazon RDS detects that you are running out of free database space it automatically scales up your storage.

<https://aws.amazon.com/about-aws/whats-new/2019/06/rds-storage-auto-scaling/>

[https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER\\_PIOPS.StorageTypes.html#USER\\_PIOPS](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER_PIOPS.StorageTypes.html#USER_PIOPS).

#### NEW QUESTION 2

A company with branch offices in Portland, New York, and Singapore has a three-tier web application that leverages a shared database. The database runs on Amazon RDS for MySQL and is hosted in the us-west-2 Region. The application has a distributed front end deployed in the us-west-2, ap-southeast-1, and us-east-2 Regions.

This front end is used as a dashboard for Sales Managers in each branch office to see current sales statistics. There are complaints that the dashboard performs more slowly in the Singapore location than it does in Portland or New York. A solution is needed to provide consistent performance for all users in each location. Which set of actions will meet these requirements?

- A. Take a snapshot of the instance in the us-west-2 Region
- B. Create a new instance from the snapshot in the ap-southeast-1 Region
- C. Reconfigure the ap-southeast-1 front-end dashboard to access this instance.
- D. Create an RDS read replica in the ap-southeast-1 Region from the primary RDS DB instance in the us-west-2 Region
- E. Reconfigure the ap-southeast-1 front-end dashboard to access this instance.
- F. Create a new RDS instance in the ap-southeast-1 Region
- G. Use AWS DMS and change data capture (CDC) to update the new instance in the ap-southeast-1 Region
- H. Reconfigure the ap-southeast-1 front-end dashboard to access this instance.
- I. Create an RDS read replica in the us-west-2 Region where the primary instance reside
- J. Create a read replica in the ap-southeast-1 Region from the read replica located on the us-west-2 Region
- K. Reconfigure the ap-southeast-1 front-end dashboard to access this instance.

**Answer:** B

#### Explanation:

<https://aws.amazon.com/rds/features/read-replicas/>

"Amazon RDS Read Replicas provide enhanced performance and durability for RDS database (DB) instances.

They make it easy to elastically scale out beyond the capacity constraints of a single DB instance for

read-heavy database workloads. You can create one or more replicas of a given source DB Instance and serve high-volume application read traffic from multiple copies of your data, thereby increasing aggregate read throughput. "

[https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER\\_ReadRepl.XRgn.html](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER_ReadRepl.XRgn.html)

#### NEW QUESTION 3

A Database Specialist is setting up a new Amazon Aurora DB cluster with one primary instance and three Aurora Replicas for a highly intensive, business-critical application. The Aurora DB cluster has one medium-sized primary instance, one large-sized replica, and two medium-sized replicas. The Database Specialist did not assign a promotion tier to the replicas.

In the event of a primary failure, what will occur?

- A. Aurora will promote an Aurora Replica that is of the same size as the primary instance
- B. Aurora will promote an arbitrary Aurora Replica
- C. Aurora will promote the largest-sized Aurora Replica
- D. Aurora will not promote an Aurora Replica

**Answer:** C

#### Explanation:

Priority: If you don't select a value, the default is tier-1. This priority determines the order in which Aurora

[https://docs.amazonaws.cn/en\\_us/AmazonRDS/latest/AuroraUserGuide/aurora-replicas-adding.html](https://docs.amazonaws.cn/en_us/AmazonRDS/latest/AuroraUserGuide/aurora-replicas-adding.html)

More than one Aurora Replica can share the same priority, resulting in promotion tiers. If two or more Aurora Replicas share the same priority, then Amazon RDS promotes the replica that is largest in size. If two or more Aurora Replicas share the same priority and size, then Amazon RDS promotes an arbitrary replica in the same promotion tier.

<https://docs.aws.amazon.com/AmazonRDS/latest/AuroraUserGuide/Aurora.Managing.Backups.html#Aurora.M> If two or more Aurora Replicas share the same

priority, then Amazon RDS promotes the replica that is largest in size. If two or more Aurora Replicas share the same priority and size, then Amazon RDS

promotes an arbitrary replica in the same promotion tier. <https://docs.aws.amazon.com/AmazonRDS/latest/AuroraUserGuide/Concepts.AuroraHighAvailability.html>

#### NEW QUESTION 4

A ride-hailing application uses an Amazon RDS for MySQL DB instance as persistent storage for bookings. This application is very popular and the company expects a tenfold increase in the user base in next few months. The application experiences more traffic during the morning and evening hours.

This application has two parts:

An in-house booking component that accepts online bookings that directly correspond to simultaneous requests from users.

A third-party customer relationship management (CRM) component used by customer care representatives. The CRM uses queries to access booking data.

A database specialist needs to design a cost-effective database solution to handle this workload. Which solution meets these requirements?

- A. Use Amazon ElastiCache for Redis to accept the booking
- B. Associate an AWS Lambda function to capture changes and push the booking data to the RDS for MySQL DB instance used by the CRM.
- C. Use Amazon DynamoDB to accept the booking
- D. Enable DynamoDB Streams and associate an AWS Lambda function to capture changes and push the booking data to an Amazon SQS queue
- E. This triggers another Lambda function that pulls data from Amazon SQS and writes it to the RDS for MySQL DB instance used by the CRM.
- F. Use Amazon ElastiCache for Redis to accept the booking
- G. Associate an AWS Lambda function to capture changes and push the booking data to an Amazon Redshift database used by the CRM.
- H. Use Amazon DynamoDB to accept the booking
- I. Enable DynamoDB Streams and associate an AWS Lambda function to capture changes and push the booking data to Amazon Athena, which is used by the CRM.

**Answer: D**

#### NEW QUESTION 5

A company has a production environment running on Amazon RDS for SQL Server with an in-house web application as the front end. During the last application maintenance window, new functionality was added to the web application to enhance the reporting capabilities for management. Since the update, the application is slow to respond to some reporting queries.

How should the company identify the source of the problem?

- A. Install and configure Amazon CloudWatch Application Insights for Microsoft .NET and Microsoft SQL Server
- B. Use a CloudWatch dashboard to identify the root cause.
- C. Enable RDS Performance Insights and determine which query is creating the problem
- D. Request changes to the query to address the problem.
- E. Use AWS X-Ray deployed with Amazon RDS to track query system traces.
- F. Create a support request and work with AWS Support to identify the source of the issue.

**Answer: B**

#### Explanation:

Amazon RDS Performance Insights is a database performance tuning and monitoring feature that helps you quickly assess the load on your database, and determine when and where to take action. Performance Insights allows non-experts to detect performance problems with an easy-to-understand dashboard that visualizes database load. <https://aws.amazon.com/rds/performance-insights/>

#### NEW QUESTION 6

A company is developing a new web application. An AWS CloudFormation template was created as a part of the build process.

Recently, a change was made to an AWS::RDS::DBInstance resource in the template. The CharacterSetName property was changed to allow the application to process international text. A change set was generated using the new template, which indicated that the existing DB instance should be replaced during an upgrade.

What should a database specialist do to prevent data loss during the stack upgrade?

- A. Create a snapshot of the DB instance
- B. Modify the template to add the DBSnapshotIdentifier property with the ID of the DB snapshot
- C. Update the stack.
- D. Modify the stack policy using the aws cloudformation update-stack command and the set-stack-policy command, then make the DB resource protected.
- E. Create a snapshot of the DB instance
- F. Update the stack
- G. Restore the database to a new instance.
- H. Deactivate any applications that are using the DB instance
- I. Create a snapshot of the DB instance. Modify the template to add the DBSnapshotIdentifier property with the ID of the DB snapshot
- J. Update the stack and reactivate the applications.

**Answer: D**

#### Explanation:

To preserve your data, perform the following procedure:

- \* 1. Deactivate any applications that are using the DB instance so that there's no activity on the DB instance.
- \* 2. Create a snapshot of the DB instance. For more information about creating DB snapshots
- \* 3. If you want to restore your instance using a DB snapshot, modify the updated template with your DB instance changes and add the DBSnapshotIdentifier property with the ID of the DB snapshot that you want to use
- \* 4. Update the stack.

#### NEW QUESTION 7

A media company is using Amazon RDS for PostgreSQL to store user data. The RDS DB instance currently has a publicly accessible setting enabled and is hosted in a public subnet. Following a recent AWS Well-Architected Framework review, a Database Specialist was given new security requirements.

Only certain on-premises corporate network IPs should connect to the DB instance. Connectivity is allowed from the corporate network only.

Which combination of steps does the Database Specialist need to take to meet these new requirements? (Choose three.)

- A. Modify the pg\_hba.conf file
- B. Add the required corporate network IPs and remove the unwanted IPs.
- C. Modify the associated security group
- D. Add the required corporate network IPs and remove the unwanted IPs.
- E. Move the DB instance to a private subnet using AWS DMS.
- F. Enable VPC peering between the application host running on the corporate network and the VPC associated with the DB instance.
- G. Disable the publicly accessible setting.
- H. Connect to the DB instance using private IPs and a VPN.

**Answer: BEF**

#### Explanation:

[https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER\\_VPC.WorkingWithRDSInstanceinaVPC.html](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER_VPC.WorkingWithRDSInstanceinaVPC.html)

#### NEW QUESTION 8

A company is running its line of business application on AWS, which uses Amazon RDS for MySQL at the persistent data store. The company wants to minimize downtime when it migrates the database to Amazon Aurora.

Which migration method should a Database Specialist use?

- A. Take a snapshot of the RDS for MySQL DB instance and create a new Aurora DB cluster with the option to migrate snapshots.
- B. Make a backup of the RDS for MySQL DB instance using the mysqldump utility, create a new Aurora DB cluster, and restore the backup.
- C. Create an Aurora Replica from the RDS for MySQL DB instance and promote the Aurora DB cluster.
- D. Create a clone of the RDS for MySQL DB instance and promote the Aurora DB cluster.

**Answer: C**

#### Explanation:

<https://aws.amazon.com/blogs/database/best-practices-for-migrating-rds-for-mysql-databases-to-amazon-aurora/>

<https://docs.aws.amazon.com/AmazonRDS/latest/AuroraUserGuide/AuroraPostgreSQL.Migrating.html#Aurora>

#### NEW QUESTION 9

A company has a heterogeneous six-node production Amazon Aurora DB cluster that handles online transaction processing (OLTP) for the core business and OLAP reports for the human resources department. To match compute resources to the use case, the company has decided to have the reporting workload for the human resources department be directed to two small nodes in the Aurora DB cluster, while every other workload goes to four large nodes in the same DB cluster. Which option would ensure that the correct nodes are always available for the appropriate workload while meeting these requirements?

- A. Use the writer endpoint for OLTP and the reader endpoint for the OLAP reporting workload.
- B. Use automatic scaling for the Aurora Replica to have the appropriate number of replicas for the desired workload.
- C. Create additional readers to cater to the different scenarios.
- D. Use custom endpoints to satisfy the different workloads.

**Answer: D**

#### Explanation:

<https://aws.amazon.com/about-aws/whats-new/2018/11/amazon-aurora-simplifies-workload-management-with-c> You can now create custom endpoints for Amazon Aurora databases. This allows you to distribute and load balance workloads across different sets of database instances in your Aurora cluster. For example, you may provision a set of Aurora Replicas to use an instance type with higher memory capacity in order to run an analytics workload. A custom endpoint can then help you route the analytics workload to these appropriately-configured instances, while keeping other instances in your cluster isolated from this workload. As you add or remove instances from the custom endpoint to match your workload, the endpoint helps spread the load around.

#### NEW QUESTION 10

A large financial services company requires that all data be encrypted in transit. A Developer is attempting to connect to an Amazon RDS DB instance using the company VPC for the first time with credentials provided by a Database Specialist. Other members of the Development team can connect, but this user is consistently receiving an error indicating a communications link failure. The Developer asked the Database Specialist to reset the password a number of times, but the error persists.

Which step should be taken to troubleshoot this issue?

- A. Ensure that the database option group for the RDS DB instance allows ingress from the Developer machine's IP address
- B. Ensure that the RDS DB instance's subnet group includes a public subnet to allow the Developer to connect
- C. Ensure that the RDS DB instance has not reached its maximum connections limit
- D. Ensure that the connection is using SSL and is addressing the port where the RDS DB instance is listening for encrypted connections

**Answer: D**

#### Explanation:

<https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/SQLServer.Concepts.General.SSL.Using.html>

#### NEW QUESTION 10

A Database Specialist migrated an existing production MySQL database from on-premises to an Amazon RDS for MySQL DB instance. However, after the migration, the database needed to be encrypted at rest using AWS KMS. Due to the size of the database, reloading, the data into an encrypted database would be too time- consuming, so it is not an option.

How should the Database Specialist satisfy this new requirement?

- A. Create a snapshot of the unencrypted RDS DB instance
- B. Create an encrypted copy of the unencrypted snapshot
- C. Restore the encrypted snapshot copy.
- D. Modify the RDS DB instance
- E. Enable the AWS KMS encryption option that leverages the AWS CLI.
- F. Restore an unencrypted snapshot into a MySQL RDS DB instance that is encrypted.
- G. Create an encrypted read replica of the RDS DB instance
- H. Promote it the master.

**Answer: A**

#### Explanation:

"However, because you can encrypt a copy of an unencrypted DB snapshot, you can effectively add encryption to an unencrypted DB instance. That is, you can create a snapshot of your DB instance, and then create an encrypted copy of that snapshot. You can then restore a DB instance from the encrypted snapshot, and thus you have an encrypted copy of your original DB instance. For more information, see Copying a Snapshot."

<https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/Overview.Encryption.html>

#### NEW QUESTION 11

A company needs a data warehouse solution that keeps data in a consistent, highly structured format. The company requires fast responses for end-user queries when looking at data from the current year, and users must have access to the full 15-year dataset, when needed. This solution also needs to handle a fluctuating number incoming queries. Storage costs for the 100 TB of data must be kept low.

Which solution meets these requirements?

- A. Leverage an Amazon Redshift data warehouse solution using a dense storage instance type while keeping all the data on local Amazon Redshift storage.
- B. Provision enough instances to support high demand.
- C. Leverage an Amazon Redshift data warehouse solution using a dense storage instance to store the most recent data and keep historical data on Amazon S3 and access it using the Amazon Redshift Spectrum layer.
- D. Keep historical data on Amazon S3 and access it using the Amazon Redshift Spectrum layer.
- E. Provision enough instances to support high demand.
- F. Leverage an Amazon Redshift data warehouse solution using a dense storage instance to store the most recent data and keep historical data on Amazon S3 and access it using the Amazon Redshift Spectrum layer.
- G. Keep historical data on Amazon S3 and access it using the Amazon Redshift Spectrum layer.
- H. Enable Amazon Redshift Concurrency Scaling.
- I. Leverage an Amazon Redshift data warehouse solution using a dense storage instance to store the most recent data and keep historical data on Amazon S3 and access it using the Amazon Redshift Spectrum layer.
- J. Keep historical data on Amazon S3 and access it using the Amazon Redshift Spectrum layer.
- K. Leverage Amazon Redshift elastic resize.

**Answer:** C

**Explanation:**

<https://docs.aws.amazon.com/redshift/latest/dg/concurrency-scaling.html>

"With the Concurrency Scaling feature, you can support virtually unlimited concurrent users and concurrent queries, with consistently fast query performance. When concurrency scaling is enabled, Amazon Redshift automatically adds additional cluster capacity when you need it to process an increase in concurrent read queries. Write operations continue as normal on your main cluster. Users always see the most current data, whether the queries run on the main cluster or on a concurrency scaling cluster. You're charged for concurrency scaling clusters only for the time they're in use. For more information about pricing, see Amazon Redshift pricing. You manage which queries are sent to the concurrency scaling cluster by configuring WLM queues. When you enable concurrency scaling for a queue, eligible queries are sent to the concurrency scaling cluster instead of waiting in line."

**NEW QUESTION 14**

A financial institution uses AWS to host its online application. Amazon RDS for MySQL is used to host the application's database, which includes automatic backups.

The program has corrupted the database logically, resulting in the application being unresponsive. The exact moment the corruption occurred has been determined, and it occurred within the backup retention period.

How should a database professional restore a database to its previous state prior to corruption?

- A. Use the point-in-time restore capability to restore the DB instance to the specified time.
- B. No changes to the application connection string are required.
- C. Use the point-in-time restore capability to restore the DB instance to the specified time.
- D. Change the application connection string to the new, restored DB instance.
- E. Restore using the latest automated backup.
- F. Change the application connection string to the new, restored DB instance.
- G. Restore using the appropriate automated backup.
- H. No changes to the application connection string are required.

**Answer:** B

**Explanation:**

When you perform a restore operation to a point in time or from a DB Snapshot, a new DB Instance is created with a new endpoint (the old DB Instance can be deleted if so desired). This is done to enable you to create multiple DB Instances from a specific DB Snapshot or point in time."

**NEW QUESTION 17**

In North America, a business launched a mobile game that swiftly expanded to 10 million daily active players. The game's backend is hosted on AWS and makes considerable use of a TTL-configured Amazon DynamoDB table.

When an item is added or changed, its TTL is set to 600 seconds plus the current epoch time. The game logic is reliant on the purging of outdated data in order to compute rewards points properly. At times, items from the table are read that are many hours beyond their TTL expiration.

How should a database administrator resolve this issue?

- A. Use a client library that supports the TTL functionality for DynamoDB.
- B. Include a query filter expression to ignore items with an expired TTL.
- C. Set the ConsistentRead parameter to true when querying the table.
- D. Create a local secondary index on the TTL attribute.

**Answer:** B

**Explanation:**

<https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/howitworks-ttl.html>

**NEW QUESTION 18**

A company has two separate AWS accounts: one for the business unit and another for corporate analytics. The company wants to replicate the business unit data stored in Amazon RDS for MySQL in us-east-1 to its corporate analytics Amazon Redshift environment in us-west-1. The company wants to use AWS DMS with Amazon RDS as the source endpoint and Amazon Redshift as the target endpoint.

Which action will allow AWS DMS to perform the replication?

- A. Configure the AWS DMS replication instance in the same account and Region as Amazon Redshift.
- B. Configure the AWS DMS replication instance in the same account as Amazon Redshift and in the same Region as Amazon RDS.
- C. Configure the AWS DMS replication instance in its own account and in the same Region as Amazon Redshift.
- D. Configure the AWS DMS replication instance in the same account and Region as Amazon RDS.

**Answer:** A

**Explanation:**

[https://docs.aws.amazon.com/dms/latest/userguide/CHAP\\_Target.Redshift.html](https://docs.aws.amazon.com/dms/latest/userguide/CHAP_Target.Redshift.html)

**NEW QUESTION 21**

A database specialist at a large multi-national financial company is in charge of designing the disaster recovery strategy for a highly available application that is in development. The application uses an Amazon DynamoDB table as its data store. The application requires a recovery time objective (RTO) of 1 minute and a recovery point objective (RPO) of 2 minutes.

Which operationally efficient disaster recovery strategy should the database specialist recommend for the DynamoDB table?

- A. Create a DynamoDB stream that is processed by an AWS Lambda function that copies the data to a DynamoDB table in another Region.
- B. Use a DynamoDB global table replica in another Region.
- C. Enable point-in-time recovery for both tables.
- D. Use a DynamoDB Accelerator table in another Region.
- E. Enable point-in-time recovery for the table.
- F. Create an AWS Backup plan and assign the DynamoDB table as a resource.

**Answer:** C

**NEW QUESTION 22**

An worldwide gaming company's development team is experimenting with using Amazon DynamoDB to store in-game events for three mobile titles. Maximum concurrent users for the most popular game is 500,000, while the least popular game is 10,000. The typical event is 20 KB in size, while the average user session generates one event each second. Each event is assigned a millisecond time stamp and a globally unique identification.

The lead developer generated a single DynamoDB database with the following structure for the events:

Partition key: game name  
Sort key: event identifier  
Local secondary index: player identifier  
Event time

In a small-scale development setting, the tests were successful. When the application was deployed to production, however, new events were not being added to the database, and the logs indicated DynamoDB failures with the `ItemCollectionSizeLimitExceededException` issue code.

Which design modification should a database professional offer to the development team?

- A. Use the player identifier as the partition key.
- B. Use the event time as the sort key.
- C. Add a global secondary index with the game name as the partition key and the event time as the sort key.
- D. Create two tables.
- E. Use the game name as the partition key in both tables.
- F. Use the event time as the sort key for the first table.
- G. Use the player identifier as the sort key for the second table.
- H. Replace the sort key with a compound value consisting of the player identifier collated with the event time, separated by a dash.
- I. Add a local secondary index with the player identifier as the sort key.
- J. Create one table for each game.
- K. Use the player identifier as the partition key.
- L. Use the event time as the sort key.

**Answer:** D

**NEW QUESTION 27**

An Amazon RDS EBS-optimized instance with Provisioned IOPS (PIOPS) storage is using less than half of its allocated IOPS over the course of several hours under constant load. The RDS instance exhibits multi-second read and write latency, and uses all of its maximum bandwidth for read throughput, yet the instance uses less than half of its CPU and RAM resources.

What should a Database Specialist do in this situation to increase performance and return latency to sub-second levels?

- A. Increase the size of the DB instance storage.
- B. Change the underlying EBS storage type to General Purpose SSD (gp2).
- C. Disable EBS optimization on the DB instance.
- D. Change the DB instance to an instance class with a higher maximum bandwidth.

**Answer:** D

**Explanation:**

[https://docs.amazonaws.cn/en\\_us/AmazonRDS/latest/UserGuide/CHAP\\_BestPractices.html](https://docs.amazonaws.cn/en_us/AmazonRDS/latest/UserGuide/CHAP_BestPractices.html)

**NEW QUESTION 28**

A company has migrated a single MySQL database to Amazon Aurora. The production data is hosted in a DB cluster in VPC\_PROD, and 12 testing environments are hosted in VPC\_TEST using the same AWS account. Testing results in minimal changes to the test data. The Development team wants each environment refreshed nightly so each test database contains fresh production data every day. Which migration approach will be the fastest and most cost-effective to implement?

- A. Run the master in Amazon Aurora MySQL
- B. Create 12 clones in VPC\_TEST, and script the clones to be deleted and re-created nightly.
- C. Run the master in Amazon Aurora MySQL
- D. Take a nightly snapshot, and restore it into 12 databases in VPC\_TEST using Aurora Serverless.
- E. Run the master in Amazon Aurora MySQL
- F. Create 12 Aurora Replicas in VPC\_TEST, and script the replicas to be deleted and re-created nightly.
- G. Run the master in Amazon Aurora MySQL using Aurora Serverless
- H. Create 12 clones in VPC\_TEST, and script the clones to be deleted and re-created nightly.

**Answer:** A

#### NEW QUESTION 30

A software development company is using Amazon Aurora MySQL DB clusters for several use cases, including development and reporting. These use cases place unpredictable and varying demands on the Aurora DB clusters, and can cause momentary spikes in latency. System users run ad-hoc queries sporadically throughout the week. Cost is a primary concern for the company, and a solution that does not require significant rework is needed. Which solution meets these requirements?

- A. Create new Aurora Serverless DB clusters for development and reporting, then migrate to these new DB clusters.
- B. Upgrade one of the DB clusters to a larger size, and consolidate development and reporting activities on this larger DB cluster.
- C. Use existing DB clusters and stop/start the databases on a routine basis using scheduling tools.
- D. Change the DB clusters to the burstable instance family.

**Answer:** A

#### Explanation:

<https://docs.aws.amazon.com/AmazonRDS/latest/AuroraUserGuide/Concepts.DBInstanceClass.html>

#### NEW QUESTION 34

A Database Specialist is migrating a 2 TB Amazon RDS for Oracle DB instance to an RDS for PostgreSQL DB instance using AWS DMS. The source RDS Oracle DB instance is in a VPC in the us-east-1 Region. The target RDS for PostgreSQL DB instance is in a VPC in the us-west-2 Region. Where should the AWS DMS replication instance be placed for the MOST optimal performance?

- A. In the same Region and VPC of the source DB instance
- B. In the same Region and VPC as the target DB instance
- C. In the same VPC and Availability Zone as the target DB instance
- D. In the same VPC and Availability Zone as the source DB instance

**Answer:** C

#### Explanation:

[https://docs.aws.amazon.com/dms/latest/userguide/CHAP\\_ReplicationInstance.VPC.html#CHAP\\_ReplicationInstance.VPC](https://docs.aws.amazon.com/dms/latest/userguide/CHAP_ReplicationInstance.VPC.html#CHAP_ReplicationInstance.VPC) In fact, all the configurations list on above url prefer the replication instance putting into target vpc region / subnet / az.

[https://docs.aws.amazon.com/dms/latest/sbs/CHAP\\_SQLServer2Aurora.Steps.CreateReplicationInstance.html](https://docs.aws.amazon.com/dms/latest/sbs/CHAP_SQLServer2Aurora.Steps.CreateReplicationInstance.html)

#### NEW QUESTION 38

A startup company is building a new application to allow users to visualize their on-premises and cloud networking components. The company expects billions of components to be stored and requires responses in milliseconds. The application should be able to identify:

- The networks and routes affected if a particular component fails.
- The networks that have redundant routes between them.
- The networks that do not have redundant routes between them.
- The fastest path between two networks.

Which database engine meets these requirements?

- A. Amazon Aurora MySQL
- B. Amazon Neptune
- C. Amazon ElastiCache for Redis
- D. Amazon DynamoDB

**Answer:** B

#### NEW QUESTION 43

A small startup firm wishes to move a 4 TB MySQL database from on-premises to AWS through an Amazon RDS for MySQL DB instance. Which migration approach would result in the LEAST amount of downtime?

- A. Deploy a new RDS for MySQL DB instance and configure it for access from the on-premises data center
- B. Use the mysqldump utility to create an initial snapshot from the on-premises MySQL server, and copy it to an Amazon S3 bucket
- C. Import the snapshot into the DB instance utilizing the MySQL utilities running on an Amazon EC2 instance
- D. Immediately point the application to the DB instance.
- E. Deploy a new Amazon EC2 instance, install the MySQL software on the EC2 instance, and configure networking for access from the on-premises data center
- F. Use the mysqldump utility to create a snapshot of the on-premises MySQL server
- G. Copy the snapshot into the EC2 instance and restore it into the EC2 MySQL instance
- H. Use AWS DMS to migrate data into a new RDS for MySQL DB instance
- I. Point the application to the DB instance.
- J. Deploy a new Amazon EC2 instance, install the MySQL software on the EC2 instance, and configure networking for access from the on-premises data center

- K. Use the mysqldump utility to create a snapshot of the on-premises MySQL serve
- L. Copy the snapshot into an Amazon S3 bucket and import the snapshot into a new RDS for MySQL DB instance using the MySQL utilities running on an EC2 instanc
- M. Point the application to the DB instance.
- N. Deploy a new RDS for MySQL DB instance and configure it for access from the on-premises data cente
- O. Use the mysqldump utility to create an initial snapshot from the on-premises MySQL server, and copy it to an Amazon S3 bucke
- P. Import the snapshot into the DB instance using the MySQL utilities running on an Amazon EC2 instanc
- Q. Establish replication into the new DB instance using MySQL replicatio
- R. Stop application access to the on-premises MySQL server and let the remaining transactions replicate ove
- S. Point the application to the DB instance.

**Answer: D**

**Explanation:**

<https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/MySQL.Procedural.Importing.NonRDSRepl.html>  
<https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/MySQL.Procedural.Importing.External.Repl.html>

**NEW QUESTION 46**

A company is about to launch a new product, and test databases must be re-created from production data. The company runs its production databases on an Amazon Aurora MySQL DB cluster. A Database Specialist needs to deploy a solution to create these test databases as quickly as possible with the least amount of administrative effort.

What should the Database Specialist do to meet these requirements?

- A. Restore a snapshot from the production cluster into test clusters
- B. Create logical dumps of the production cluster and restore them into new test clusters
- C. Use database cloning to create clones of the production cluster
- D. Add an additional read replica to the production cluster and use that node for testing

**Answer: C**

**Explanation:**

<https://aws.amazon.com/getting-started/hands-on/aurora-cloning-backtracking/>

"Cloning an Aurora cluster is extremely useful if you want to assess the impact of changes to your database, or if you need to perform workload-intensive operations—such as exporting data or running analytical queries, or simply if you want to use a copy of your production database in a development or testing environment. You can make multiple clones of your Aurora DB cluster. You can even create additional clones from other clones, with the constraint that the clone databases must be created in the same region as the source databases.

**NEW QUESTION 49**

A large company has a variety of Amazon DB clusters. Each of these clusters has various configurations that adhere to various requirements. Depending on the team and use case, these configurations can be organized into broader categories.

A database administrator wants to make the process of storing and modifying these parameters more systematic. The database administrator also wants to ensure that changes to individual categories of configurations are automatically applied to all instances when required.

Which AWS service or feature will help automate and achieve this objective?

- A. AWS Systems Manager Parameter Store
- B. DB parameter group
- C. AWS Config
- D. AWS Secrets Manager

**Answer: B**

**NEW QUESTION 52**

An electric utility company wants to store power plant sensor data in an Amazon DynamoDB table. The utility company has over 100 power plants and each power plant has over 200 sensors that send data every 2 seconds. The sensor data includes time with milliseconds precision, a value, and a fault attribute if the sensor is malfunctioning. Power plants are identified by a globally unique identifier. Sensors are identified by a unique identifier within each power plant. A database specialist needs to design the table to support an efficient method of finding all faulty sensors within a given power plant.

Which schema should the database specialist use when creating the DynamoDB table to achieve the fastest query time when looking for faulty sensors?

- A. Use the plant identifier as the partition key and the measurement time as the sort ke
- B. Create a global secondary index (GSI) with the plant identifier as the partition key and the fault attribute as the sort key.
- C. Create a composite of the plant identifier and sensor identifier as the partition ke
- D. Use the measurement time as the sort ke
- E. Create a local secondary index (LSI) on the fault attribute.
- F. Create a composite of the plant identifier and sensor identifier as the partition ke
- G. Use the measurement time as the sort ke
- H. Create a global secondary index (GSI) with the plant identifier as the partition key and the fault attribute as the sort key.
- I. Use the plant identifier as the partition key and the sensor identifier as the sort ke
- J. Create a local secondary index (LSI) on the fault attribute.

**Answer: D**

**Explanation:**

Plant id as partition key and Sensor id as a sort key. Fault can be identified quickly using the local secondary index and associated plant and sensor can be identified easily.

**NEW QUESTION 54**

A business's production databases are housed on a 3 TB Amazon Aurora MySQL DB cluster. The database cluster is installed in the region us-east-1. For disaster recovery (DR) requirements, the company's database expert needs to fast deploy the DB cluster in another AWS Region to handle the production load with an RTO of less than two hours.

Which approach is the MOST OPERATIONALLY EFFECTIVE in meeting these requirements?

- A. Implement an AWS Lambda function to take a snapshot of the production DB cluster every 2 hours, and copy that snapshot to an Amazon S3 bucket in the DR Region
- B. Restore the snapshot to an appropriately sized DB cluster in the DR Region.
- C. Add a cross-Region read replica in the DR Region with the same instance type as the current primary instance
- D. If the read replica in the DR Region needs to be used for production, promote the read replica to become a standalone DB cluster.
- E. Create a smaller DB cluster in the DR Region
- F. Configure an AWS Database Migration Service (AWS DMS) task with change data capture (CDC) enabled to replicate data from the current production DB cluster to the DB cluster in the DR Region.
- G. Create an Aurora global database that spans two Regions
- H. Use AWS Database Migration Service (AWS DMS) to migrate the existing database to the new global database.

**Answer:** B

**Explanation:**

RTO is 2 hours. With 3 TB database, cross-region replica is a better option

**NEW QUESTION 58**

AWS CloudFormation stack including an Amazon RDS database instance was mistakenly removed, resulting in the loss of recent data. A Database Specialist must apply RDS parameters to the CloudFormation template in order to minimize the possibility of future inadvertent instance data loss.

Which settings will satisfy this criterion? (Select three.)

- A. Set DeletionProtection to True
- B. Set MultiAZ to True
- C. Set TerminationProtection to True
- D. Set DeleteAutomatedBackups to False
- E. Set DeletionPolicy to Delete
- F. Set DeletionPolicy to Retain

**Answer:** ADF

**Explanation:**

A <https://aws.amazon.com/about-aws/whats-new/2018/09/amazon-rds-now-provides-database-deletion-protection/>

D [https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER\\_WorkingWithAutomatedBackups.html](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER_WorkingWithAutomatedBackups.html)

F - <https://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/aws-attribute-deletionpolicy.html>

**NEW QUESTION 59**

A company's Security department established new requirements that state internal users must connect to an existing Amazon RDS for SQL Server DB instance using their corporate Active Directory (AD) credentials. A Database Specialist must make the modifications needed to fulfill this requirement.

Which combination of actions should the Database Specialist take? (Choose three.)

- A. Disable Transparent Data Encryption (TDE) on the RDS SQL Server DB instance.
- B. Modify the RDS SQL Server DB instance to use the directory for Windows authentication
- C. Create appropriate new logins.
- D. Use the AWS Management Console to create an AWS Managed Microsoft AD
- E. Create a trust relationship with the corporate AD.
- F. Stop the RDS SQL Server DB instance, modify it to use the directory for Windows authentication, and start it again
- G. Create appropriate new logins.
- H. Use the AWS Management Console to create an AD Connector
- I. Create a trust relationship with the corporate AD.
- J. Configure the AWS Managed Microsoft AD domain controller Security Group.

**Answer:** BCF

**Explanation:**

[https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER\\_SQLServerWinAuth.html](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER_SQLServerWinAuth.html)

**NEW QUESTION 60**

A business is transferring a database from one AWS Region to another using an Amazon RDS for SQL Server DB instance. The organization wishes to keep database downtime to a minimum throughout the transfer.

Which migration strategy should the organization use for this cross-regional move?

- A. Back up the source database using native backup to an Amazon S3 bucket in the same Region
- B. Then restore the backup in the target Region.
- C. Back up the source database using native backup to an Amazon S3 bucket in the same Region
- D. Use Amazon S3 Cross-Region Replication to copy the backup to an S3 bucket in the target Region
- E. Then restore the backup in the target Region.
- F. Configure AWS Database Migration Service (AWS DMS) to replicate data between the source and the target database
- G. Once the replication is in sync, terminate the DMS task.
- H. Add an RDS for SQL Server cross-Region read replica in the target Region
- I. Once the replication is in sync, promote the read replica to master.

**Answer:** C

**Explanation:**

[https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER\\_ReadRepl.XRgn.html](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER_ReadRepl.XRgn.html)

With Amazon RDS, you can create a MariaDB, MySQL, Oracle, or PostgreSQL read replica in a different AWS Region from the source DB instance. Creating a cross-Region read replica isn't supported for SQL Server on Amazon RDS.

#### NEW QUESTION 65

A company has a web-based survey application that uses Amazon DynamoDB. During peak usage, when survey responses are being collected, a Database Specialist sees the ProvisionedThroughputExceededException error. What can the Database Specialist do to resolve this error? (Choose two.)

- A. Change the table to use Amazon DynamoDB Streams
- B. Purchase DynamoDB reserved capacity in the affected Region
- C. Increase the write capacity units for the specific table
- D. Change the table capacity mode to on-demand
- E. Change the table type to throughput optimized

**Answer:** CD

#### Explanation:

<https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/switching.capacitymode.html>

#### NEW QUESTION 67

A company is looking to move an on-premises IBM Db2 database running AIX on an IBM POWER7 server. Due to escalating support and maintenance costs, the company is exploring the option of moving the workload to an Amazon Aurora PostgreSQL DB cluster. What is the quickest way for the company to gather data on the migration compatibility?

- A. Perform a logical dump from the Db2 database and restore it to an Aurora DB cluster
- B. Identify the gaps and compatibility of the objects migrated by comparing row counts from source and target tables.
- C. Run AWS DMS from the Db2 database to an Aurora DB cluster
- D. Identify the gaps and compatibility of the objects migrated by comparing the row counts from source and target tables.
- E. Run native PostgreSQL logical replication from the Db2 database to an Aurora DB cluster to evaluate the migration compatibility.
- F. Run the AWS Schema Conversion Tool (AWS SCT) from the Db2 database to an Aurora DB cluster. Create a migration assessment report to evaluate the migration compatibility.

**Answer:** D

#### NEW QUESTION 72

A business is launching a new Amazon RDS for SQL Server database instance. The organization wishes to allow auditing of the SQL Server database. Which measures should a database professional perform in combination to achieve this requirement? (Select two.)

- A. Create a service-linked role for Amazon RDS that grants permissions for Amazon RDS to store audit logs on Amazon S3.
- B. Set up a parameter group to configure an IAM role and an Amazon S3 bucket for audit log storage. Associate the parameter group with the DB instance.
- C. Disable Multi-AZ on the DB instance, and then enable auditin
- D. Enable Multi-AZ after auditing is enabled.
- E. Disable automated backup on the DB instance, and then enable auditin
- F. Enable automated backup after auditing is enabled.
- G. Set up an options group to configure an IAM role and an Amazon S3 bucket for audit log storage. Associate the options group with the DB instance.

**Answer:** AE

#### Explanation:

<https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/Appendix.SQLServer.Options.Audit.html>

[https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/security\\_iam\\_service-with-iam.html](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/security_iam_service-with-iam.html)

#### NEW QUESTION 75

A Database Specialist has migrated an on-premises Oracle database to Amazon Aurora PostgreSQL. The schema and the data have been migrated successfully. The on-premises database server was also being used to run database maintenance cron jobs written in Python to perform tasks including data purging and generating data exports. The logs for these jobs show that, most of the time, the jobs completed within 5 minutes, but a few jobs took up to 10 minutes to complete. These maintenance jobs need to be set up for Aurora PostgreSQL.

How can the Database Specialist schedule these jobs so the setup requires minimal maintenance and provides high availability?

- A. Create cron jobs on an Amazon EC2 instance to run the maintenance jobs following the required schedule.
- B. Connect to the Aurora host and create cron jobs to run the maintenance jobs following the required schedule.
- C. Create AWS Lambda functions to run the maintenance jobs and schedule them with Amazon CloudWatch Events.
- D. Create the maintenance job using the Amazon CloudWatch job scheduling plugin.

**Answer:** C

#### Explanation:

<https://docs.aws.amazon.com/AmazonCloudWatch/latest/events/Create-CloudWatch-Events-Scheduled-Rule.html> <https://docs.aws.amazon.com/prescriptive-guidance/latest/patterns/schedule-jobs-for-amazon-rds-and-aurora-postgresql.html> a job for data extraction or a job for data purging can easily be scheduled using cron. For these jobs, database credentials are typically either hard-coded or stored in a properties file. However, when you migrate to Amazon Relational Database Service (Amazon RDS) or Amazon Aurora PostgreSQL, you lose the ability to log in to the host instance to schedule cron jobs. This pattern describes how to use AWS Lambda and AWS Secrets Manager to schedule jobs for Amazon RDS and Aurora PostgreSQL databases after migration. <https://docs.aws.amazon.com/AmazonCloudWatch/latest/events/RunLambdaSchedule.html>

#### NEW QUESTION 80

Amazon Neptune is being used by a corporation as the graph database for one of its products. During an ETL procedure, the company's data science team produced enormous volumes of temporary data by unintentionally. The Neptune DB cluster extended its storage capacity automatically to handle the added data, but the data science team erased the superfluous data.

What should a database professional do to prevent incurring extra expenditures for cluster volume space that is not being used?

- A. Take a snapshot of the cluster volume

- B. Restore the snapshot in another cluster with a smaller volume size.
- C. Use the AWS CLI to turn on automatic resizing of the cluster volume.
- D. Export the cluster data into a new Neptune DB cluster.
- E. Add a Neptune read replica to the cluster.
- F. Promote this replica as a new primary DB instance.
- G. Reset the storage space of the cluster.

**Answer:** C

**Explanation:**

The only way to shrink the storage space used by your DB cluster when you have a large amount of unused allocated space is to export all the data in your graph and then reload it into a new DB cluster. Creating and restoring a snapshot does not reduce the amount of storage allocated for your DB cluster, because a snapshot retains the original image of the cluster's underlying storage.

**NEW QUESTION 85**

A Database Specialist needs to speed up any failover that might occur on an Amazon Aurora PostgreSQL DB cluster. The Aurora DB cluster currently includes the primary instance and three Aurora Replicas.

How can the Database Specialist ensure that failovers occur with the least amount of downtime for the application?

- A. Set the TCP keepalive parameters low
- B. Call the AWS CLI `failover-db-cluster` command
- C. Enable Enhanced Monitoring on the DB cluster
- D. Start a database activity stream on the DB cluster

**Answer:** A

**Explanation:**

<https://docs.aws.amazon.com/AmazonRDS/latest/AuroraUserGuide/AuroraPostgreSQL.BestPractices.html#Aur>

**NEW QUESTION 88**

Amazon DynamoDB global tables are being used by a business to power an online gaming game. The game is played by gamers from all around the globe. As the game became popular, the amount of queries to DynamoDB substantially rose. Recently, gamers have complained about the game's condition being inconsistent between nations. A database professional notices that the `ReplicationLatency` metric for many replica tables is set to an abnormally high value. Which strategy will resolve the issue?

- A. Configure all replica tables to use DynamoDB auto scaling.
- B. Configure a DynamoDB Accelerator (DAX) cluster on each of the replicas.
- C. Configure the primary table to use DynamoDB auto scaling and the replica tables to use manually provisioned capacity.
- D. Configure the table-level write throughput limit service quota to a higher value.

**Answer:** A

**Explanation:**

[https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/V2globaltables\\_reqs\\_bestpractices.html](https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/V2globaltables_reqs_bestpractices.html)

**NEW QUESTION 90**

A Database Specialist is constructing a new Amazon Neptune DB cluster and tries to load data from Amazon S3 using the Neptune bulk loader API. The Database Specialist is confronted with the following error message:

“Unable to establish a connection to the s3 endpoint. The source URL is `s3://mybucket/graphdata/` and the region code is `us-east-1`. Kindly confirm your Configuration S3.

Which of the following activities should the Database Specialist take to resolve the issue? (Select two.)

- A. Check that Amazon S3 has an IAM role granting read access to Neptune
- B. Check that an Amazon S3 VPC endpoint exists
- C. Check that a Neptune VPC endpoint exists
- D. Check that Amazon EC2 has an IAM role granting read access to Amazon S3
- E. Check that Neptune has an IAM role granting read access to Amazon S3

**Answer:** BE

**Explanation:**

<https://docs.aws.amazon.com/neptune/latest/userguide/bulk-load-tutorial-IAM.html> <https://docs.aws.amazon.com/neptune/latest/userguide/bulk-load-data.html>

“An IAM role for the Neptune DB instance to assume that has an IAM policy that allows access to the data files in the S3 bucket. The policy must grant Read and List permissions.” “An Amazon S3 VPC endpoint. For more information, see the Creating an Amazon S3 VPC Endpoint section.”

**NEW QUESTION 95**

A business's mission-critical production workload is being operated on a 500 GB Amazon Aurora MySQL DB cluster. A database engineer must migrate the workload without causing data loss to a new Amazon Aurora Serverless MySQL DB cluster.

Which approach will result in the LEAST amount of downtime and the LEAST amount of application impact?

- A. Modify the existing DB cluster and update the Aurora configuration to Serverless.
- B. Create a snapshot of the existing DB cluster and restore it to a new Aurora Serverless DB cluster.
- C. Create an Aurora Serverless replica from the existing DB cluster and promote it to primary when the replica lag is minimal.
- D. Replicate the data between the existing DB cluster and a new Aurora Serverless DB cluster by using AWS Database Migration Service (AWS DMS) with change data capture (CDC) enabled.

**Answer:** D

**Explanation:**

<https://medium.com/@souri29/how-to-migrate-from-amazon-rds-aurora-or-mysql-to-amazon-aurora-serverless>

#### NEW QUESTION 98

A clothing company uses a custom ecommerce application and a PostgreSQL database to sell clothes to thousands of users from multiple countries. The company is migrating its application and database from its on- premises data center to the AWS Cloud. The company has selected Amazon EC2 for the application and Amazon RDS for PostgreSQL for the database. The company requires database passwords to be changed every 60 days. A Database Specialist needs to ensure that the credentials used by the web application to connect to the database are managed securely. Which approach should the Database Specialist take to securely manage the database credentials?

- A. Store the credentials in a text file in an Amazon S3 bucket
- B. Restrict permissions on the bucket to the IAM role associated with the instance profile onl
- C. Modify the application to download the text file and retrieve the credentials on start u
- D. Update the text file every 60 days.
- E. Configure IAM database authentication for the application to connect to the databas
- F. Create an IAM user and map it to a separate database user for each ecommerce use
- G. Require users to update their passwords every 60 days.
- H. Store the credentials in AWS Secrets Manage
- I. Restrict permissions on the secret to only the IAM role associated with the instance profil
- J. Modify the application to retrieve the credentials from Secrets Manager on start u
- K. Configure the rotation interval to 60 days.
- L. Store the credentials in an encrypted text file in the application AM
- M. Use AWS KMS to store the key for decrypting the text fil
- N. Modify the application to decrypt the text file and retrieve the credentials on start u
- O. Update the text file and publish a new AMI every 60 days.

Answer: C

#### NEW QUESTION 103

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